

AMENDMENTS TO THE CLAIMS

This listing of the claims replaces all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

Claims 1-9 [Cancelled]

10. [Currently Amended] The method as claimed in claim 926 wherein refusing the priority-protection switch request comprises pending the request so that if the unprotected traffic being transported through the protection channel subsequently ~~occupant~~ releases the protection channel, a network element (NE) that issued the priority switch request is notified.
11. [Cancelled]
12. [Cancelled]
13. [Currently Amended] The method as claimed in claim 1227 further comprising performing switch operations to route the protected traffic from the working channel to the support the protection channel if the protection switch request is admitted.
14. [Currently Amended] The method as claimed in claim 13 wherein refusing the priority-protection switch request further comprises:

forwarding a protection switch request pended message along the protection channel;

and

if the occupied portion of the data transport capacity of the protection channel subsequently becomes unoccupied, forwarding a message along the protection channel indicating that the data transport capacity protection channel is idle.

15. [Currently Amended] The method as claimed in claim 1427 wherein admitting the protection switch request further comprises forwarding a pre-empted switch request message ~~to a next network element of an occupant through the~~ protection channel ~~currently using the data transport capacity,~~ to request the unprotected traffic being transported through the protection channel to~~occupant~~ relinquish the data transport capacity of the protection channel.
16. [Currently Amended] A protection switch processor ~~of for applying a protection access policy in an~~ optical network that supports protected traffic and extra traffic at predefined grades of service using pre-provisioned working and protection channels, comprising the protection switch processor executing under control of software for applying a protection access policy for controlling access to each protection channel of the network, the software being stored on a computer-readable medium and comprising executable instruction code for:
- ~~means for~~ determining a priority value associated with a protection switch request message for requesting access to a protection channel switching protected traffic from a working channel to its associated protection channel;
- ~~means for~~ determining an occupancy of the protection channel;
- ~~means for~~ determining a occupant priority value associated with the protection channel by determining a service priority value associated with an occupant of the protection channel if the protection channel is occupied; and
- ~~means for~~ comparing the priority value associated with the protection switch request message to the occupant priority value ~~associated with the protection channel to determine which of the priority values is highest;~~ and
- refusing the protection switch request if a bandwidth of the working channel to be switched is greater than an unoccupied portion of the protection channel, and the request priority value of the protection switch request is less than or equal to the occupant priority value of the protection channel.

17. [Currently Amended] The protection switch processor as claimed in claim 16 ~~further comprising~~ wherein the software further comprises instruction code for:
- ~~means for refusing the protection switch request if the priority value associated with the protection switch request message is less than, or equal to, the priority value associated with the protection channel; and~~
- ~~means for admitting the protection switch request if the protection channel is idle, or the occupant priority value associated with the protection channel is lower than the priority value associated with the protection switch request message.~~
18. [Currently Amended] The protection switch processor as claimed in claim 17 wherein the ~~means~~ instruction code for admitting the protection switch request further comprises instruction code for:
- ~~means for sending a pre-empted switch request message to respective ends of an occupant through the protection channel to direct the occupant unprotected traffic being transported through the protection channel to relinquish access to the data transport capacity if the occupant is not extra traffic the data transport capacity of the protection channel.~~
19. [Cancelled]
20. [Cancelled]
21. [NEW] In an optical network including predetermined protection channels for transport of protected traffic during a failover, a method for controlling access to each protection channel, the method comprising:
- assigning one of a predetermined set of at least two service priority values to each flow of unprotected traffic being transported through the network, the unprotected traffic being transported through the network using at least one idle protection path;

assigning one of a predetermined set of request priority values to each protection switch request for switching protected traffic from a working channel to its associated protection channel; and

refusing a protection switch request if a bandwidth of the working channel to be switched is greater than an unoccupied portion of the protection channel, and the request priority value of the protection switch request is less than or equal to the service priority value of unprotected traffic being transported through the protection channel.

22. [NEW] The method as claimed in claim 21, wherein the predetermined set of at least two service priority values comprises a first service priority value corresponding to a preemptable class of service, and a second service priority value corresponding to a non-preemptable traffic class of service.
23. [NEW] The method as claimed in claim 22, wherein the first service priority value is higher than at least one of the predetermined set of request priority values.
24. [NEW] The method as claimed in claim 23, wherein the first service priority value is higher than request priority values associated with any one or more of:
a degraded condition of the working channel; and
a test protection switch initiated by network management.
25. [NEW] The method as claimed in claim 22, wherein the second service priority value is higher than a request priority value associated with a signal fail condition of the working channel.
26. [NEW] In an optical network including predetermined protection channels for transport of protected traffic during a failover, a method for handling a protection switch request, the method comprising:

receiving the protection switch request for switching protected traffic from a working channel to its associated protection channel, the protection switch request including a request priority value;

determining a current occupancy of the protection channel, the occupancy being one of idle, occupied by unprotected traffic associated with one of a plurality of grades of service, and occupied by protected traffic switched from a working channel with a specific request priority; and

refusing the protection switch request if a bandwidth of the working channel to be switched is greater than an unoccupied portion of the protection channel, and the request priority value of the protection switch request is less than or equal to the service priority value of unprotected traffic being transported through the protection channel.

27. [NEW] The method as claimed in claim 26 further comprising admitting the protection switch request if the priority value of the switch request is greater than the service priority value associated with the unprotected traffic being transported through the protection channel.